

EAST Search History

S36	4	(generat\$4 construct\$4 build\$4 creat\$4 provid\$4) with (web adj page) same threshold same (fetch\$4 prefetch\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:16
S37	1	dynamic with (web adj page) same threshold same (fetch\$4 prefetch\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/05 11:15
S38	11	request\$4 with (web adj page) same threshold same (fetch\$4 prefetch\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:17
S41	8	request\$4 with (web adj page) same (fetch\$4 prefetch\$4) same ((url) (universal adj resource)) same map\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:17
S42	6	request\$4 with (web adj page) same (fetch\$4 prefetch\$4) same catalog	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 10:11
S46	13	request\$4 with (web adj page) same (fetch\$4 prefetch\$4) same frequen\$5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:16
S47	4	(dynamic near2 (web portal) near2 (creat\$4 generat\$4) with template). ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:18
S48	7	(dynamic near2 (web portal) near2 (creat\$4 generat\$4) with template). bsum.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 09:45

EAST Search History

S49	7	S48 not S47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 09:45
S51	9	(dynamic near2 (web portal)) same prefetch\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 09:57
S54	35	request\$4 with (web adj page) same (fetch\$4 prefetch\$4 retriev\$4) same catalog	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:19
S56	1	(reduc\$4 minimiz\$4) same ((web adj page) (web\$page) (web adj site) (portal)) same template and (715/762 715/765 715/751 715/738 715/511 717/123)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 13:18

7194678

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	(dynamic NEAR2 (web OR portal) NEAR2 (creat\$4 OR generat\$4) WITH template).ab.	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	OR	ON	2007/11/08 09:22
L2	7	(dynamic NEAR2 (web OR portal) NEAR2 (creat\$4 OR generat\$4) WITH template).bsum.	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	OR	ON	2007/11/08 09:22
L3	7	2 NOT 1	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	OR	ON	2007/11/08 09:22

Nevertheless, menus, advertisements or pages that cover multiple topics affect negatively the advantages of an implicit feedback technique that ...

Keywords: implicit feedback, information needs, user model, user profile

18 Content consumption: PageTailor: reusable end-user customization for the mobile web



Nilton Bila, Troy Ronda, Iqbal Mohamed, Khai N. Truong, Eyal de Lara

June 2007 **Proceedings of the 5th international conference on Mobile systems, applications and services MobiSys '07**

Publisher: ACM Press

Full text available: pdf(1.27 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most pages on the Web are designed for the desktop environment and render poorly on the small screens available on handheld devices. We introduce Reusable End-User Customization (REUC), a technique that lets end users adapt the layout of Web pages by removing, resizing and moving page elements. REUC records the user's customizations and automatically reapplies them on subsequent visits to the same page or to other, similar pages, on the same Web site. We present PageTailor, a REUC prototype b ...

Keywords: customization, end-user, mobile web, small screen

19 Data integration and sharing II: Extracting structured data from Web pages



Arvind Arasu, Hector Garcia-Molina, Stanford University

June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data SIGMOD '03**

Publisher: ACM Press

Full text available: pdf(587.99 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Many web sites contain large sets of pages generated using a common template or layout. For example, Amazon lays out the author, title, comments, etc. in the same way in all its book pages. The values used to generate the pages (e.g., the author, title,...) typically come from a database. In this paper, we study the problem of automatically extracting the database values from such template-generated web pages without any learning examples or other similar human input. We formally define a templa ...

20 Design: static pages are dead: how a modular approach is changing interaction design



September 2001 **interactions**, Volume 8 Issue 5

Publisher: ACM Press

Full text available: pdf(300.56 KB) html(24.94 KB) Additional Information: [full citation](#), [citations](#), [index terms](#)

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www.cogent.ca
Dynamic web page - Wikipedia, the free encyclopedia

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SwTech.com - Dynamic Web Page Generation

A summary of the various technologies for doing Server-side **dynamic page generation**.
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Every topic link is rendered as a separate **web page** (WML card) ... Supply metadata for
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(WO/2001/057721) DYNAMIC WEB PAGE GENERATION

Dynamic web page generation is optimized by reducing the processing overhead required
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System for managing dynamic web page generation requests by ...

The present invention teaches a method and apparatus for creating and managing custom
Web sites. Specifically, one embodiment of the present invention ...
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Offline dynamic web page generation - Patent 20030135819

A method, computer program product, electronic document product, and data processing
 system for rendering **web** pages containing **dynamic** data is disclosed.
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System for managing dynamic web page generation requests by ...

System for managing **dynamic web page generation** requests by intercepting request at
web server and routing to **page** server thereby releasing **web** server to ...

<http://www.google.com/search?hl=en&q=dynamic+web+page+generation>

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Dynamic web page cache - Patent 7096418

A method for caching a **dynamic web page**, the method comprising: Alternatively, if cached **dynamic** pages were refreshed with sufficient **frequency** to ...
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Performance of Dynamic Web Page Generation for Database-driven Web ...

generate such **dynamic web page** for each user request. requires heavy **dynamic** script execution In addition to the access **frequency** (or request rate), ...
doi.ieeecomputersociety.org/10.1109/NWESP.2006.24 - [Similar pages](#)

The Database Behind Your Web Page - Terminology: 2003 Marketing ...

Dynamic Page: A **dynamic Web page** contains content that a user can interact with, such as information that is tied to a database. The user can request that ...
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A Variety of effects and controls

Dynamic Web Page Effects contains several products which allow a variety of effects ... feedback, **frequency**, delay, waveform, phase, gain, attack, release, ...
www.soft-articles.com/programs/sirius-computer-consultants-limited/dynamic-web-page-effects.html - 15k - [Cached](#) - [Similar pages](#)

Web page optimization systems invention

Also, it provides such a method wherein such second computer processor means for selecting at least some **dynamic web-page** content comprises: sixth computer ...

http://www.google.com/search?q=dynamic+web+page+frequen*&hl=en

www.freshpatents.com/**Web-page**-optimization-systems-dt20070719ptan20070168465.php
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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	14	(reduc\$4 minimiz\$4) with time same ((web adj page) (web\$page) (web adj site) (portal)) and (715/762 715/765 715/751 715/738 715/511 717/123)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 14:15
L2	14	parallel same ((web adj page) (web\$page) (web adj site) (portal)) and (715/762 715/765 715/751 715/738 715/511 717/123)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 13:25
L6	25	(reduc\$4 minimiz\$4) with time same ((web adj page) (web\$page) (web adj site) (portal)).clm.	US-PGPUB	OR	ON	2007/11/08 14:15
L8	1	(generat\$4 construct\$4 build\$4 creat\$4 provid\$4) with (web adj page) same threshold same (fetch\$4 prefetch\$4).clm.	US-PGPUB	OR	ON	2007/11/08 14:16
L9	2	request\$4 with (web adj page) same threshold same (fetch\$4 prefetch\$4).clm.	US-PGPUB	OR	ON	2007/11/08 14:17
L11	4	(dynamic near2 (web portal) near2 (creat\$4 generat\$4) with template).clm.	US-PGPUB	OR	ON	2007/11/08 14:18
S32	1	(reduc\$4 minimiz\$4) same ((web adj page) (web\$page) (web adj site)) same ((URL) (universal adj resource adj language)) same. map\$4 same template	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/08 10:13
S33	37	(reduc\$4 minimiz\$4) same ((web adj page) (web\$page) (web adj site)) same ((URL) (universal adj resource adj language)) same map\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/05/15 11:52
S34	1	(generat\$4 construct\$4 build\$4 creat\$4 provid\$4) with (web adj page) same percent\$4 with frequenc\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/05 11:09



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1 [Scalable systems for dynamic content: Globetp: template-based database replication for scalable web applications](#)



Tobias Groothuyse, Swaminathan Sivasubramanian, Guillaume Pierre

May 2007 **Proceedings of the 16th international conference on World Wide Web WWW '07**

Publisher: ACM Press

Full text available: [pdf\(238.13 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Generic database replication algorithms do not scale linearly in throughput as all update, deletion and insertion (UDI) queries must be applied to every database replica. The throughput is therefore limited to the point where the number of UDI queries alone is sufficient to overload one server. In such scenarios, partial replication of a database can help, as UDI queries are executed only by a subset of all servers. In this paper we propose GlobeTP, a system that employs partial replication t ...

Keywords: database replication, partial replication, scalability, web applications

2 [Applications: Dynamic coordination of information management services for processing dynamic web content](#)



In-Young Ko, Ke-Thia Yao, Robert Neches

May 2002 **Proceedings of the 11th international conference on World Wide Web WWW '02**

Publisher: ACM Press

Full text available: [pdf\(1.15 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dynamic Web content provides us with time-sensitive and continuously changing data. To glean up-to-date information, users need to regularly browse, collect and analyze this Web content. Without proper tool support this information management task is tedious, time-consuming and error prone, especially when the quantity of the dynamic Web content is large, when many information management services are needed to analyze it, and when underlying services/network are not completely reliable. This pap ...

Keywords: dynamic service coordination, dynamic web content, scalable component-based software systems, semantic interoperability, web information management systems

3 [Posters: Keyword-based fragement detection for dynamic web content delivery](#)



Daniel Brodie, Amrish Gupta, Weisong Shi

May 2004 **Proceedings of the 13th international World Wide Web conference on**


Alternate track papers & posters WWW Alt. '04**Publisher:** ACM PressFull text available:  pdf(48.04 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Fragment-based caching has been proposed as a promising technique for dynamic Web content delivery and caching. Most of these approaches either assume the fragment-based content is served by Web server automatically, or look at server-side caching only. There is no method of extracting fragments from an existing dynamic Web content, which is of great importance to the success of fragment-based caching. Also, current technologies for supporting dynamic fragments do not allow to take into account c ...

Keywords: dynamic web content delivery, fragment detection

4 Web and e-business application: Dynamically generating web application fragments from page templates

Uwe Zdun

March 2002 **Proceedings of the 2002 ACM symposium on Applied computing SAC '02****Publisher:** ACM PressFull text available:  pdf(900.91 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Web-based applications are typically required to be highly customizable and configurable. New application requirements have to be introduced rapidly, often without stopping the running application process. Moreover, in many cases the same business logic has to be presented to different channels and/or user interfaces. In this paper we present a dynamic page template architecture for decomposing configurable and representational fragments of the application from the business logic. Page templates ...

Keywords: dynamic software architecture, object-Oriented Scripting, web engineering

5 Performance of service oriented systems: Speed-up SOAP processing by data mapping template

Wei Jun, Hua Lei, Niu Chunlei


May 2006 **Proceedings of the 2006 international workshop on Service-oriented software engineering SOSE '06****Publisher:** ACM PressFull text available:  pdf(245.04 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web Services is gaining popularity in distributed computing due to its loosely-coupled, high-interoperable and platform-independent characteristics. However, web services suffers performance penalty because XML based SOAP is used to specify wire message format, and SOAP processing largely affects the performance of web services. In this paper, we identify that data model mapping between XML data and Java data is the main impact factor on performance, and propose a new paradigm of data model mapp ...

Keywords: SOAP, context free grammar, data mapping template, dynamic early binding, web services

6 XML templates and caching in WASH

Peter Thiemann

August 2003 **Proceedings of the 2003 ACM SIGPLAN workshop on Haskell Haskell '03****Publisher:** ACM PressFull text available:  pdf(129.06 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Caching of documents is an important concern on the Web. It is a major win in all situations where bandwidth is limited. Unfortunately, the increasing spread of dynamically generated documents seriously hampers traditional caching techniques in browsers and

on proxy servers. WASH/CGI is a Haskell-based domain specific language for creating interactive Web applications. The Web pages generated by a WASH/CGI application are highly dynamic and cannot be cached with traditional means. We show how to i ...

Keywords: annotated languages, caching, web programming

7 Industrial sessions: middle-tier caching: Web caching for database applications with Oracle Web Cache



Jesse Anton, Lawrence Jacobs, Xiang Liu, Jordan Parker, Zheng Zeng, Tie Zhong
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**

Publisher: ACM Press

Full text available: pdf(601.17 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We discuss several important issues specific to Web caching for content dynamically generated from database applications. We present the techniques employed by Oracle Web Cache to address these issues. They include: content disambiguation based on information in addition to the URL, transparent session management, partial-page caching for personalization, and broad-scope invalidation with performance assurance heuristics.

Keywords: caching, consistency, disambiguation, dynamic content, fragment, heuristics, invalidation, partial-page caching, performance, personalization, session, template

8 Tools & techniques track: frameworks for building libraries: A web service framework for embedding discovery services in distributed library interfaces



John Weatherley
June 2005 **Proceedings of the 5th ACM/IEEE-CS joint conference on Digital libraries JCDL '05**

Publisher: ACM Press

Full text available: pdf(164.33 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Significant barriers deter web page designers and developers from incorporating dynamic content from web services into their page designs. Web services typically require designers to learn service protocols and have access to and knowledge of dynamic application servers or CGI in order to incorporate dynamic content into their pages. This paper describes a framework for embedding discovery services in distributed interfaces that seeks to simplify this process and eliminate these barriers, making ...

Keywords: discovery, retrieval, search, web services

9 Versioning and fragmentation: Automatic detection of fragments in dynamically generated web pages



Lakshmi Ramaswamy, Arun Iyengar, Ling Liu, Fred Douglass
May 2004 **Proceedings of the 13th international conference on World Wide Web WWW '04**

Publisher: ACM Press

Full text available: pdf(268.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dividing web pages into fragments has been shown to provide significant benefits for both content generation and caching. In order for a web site to use fragment-based content generation, however, good methods are needed for dividing web pages into fragments. Manual fragmentation of web pages is expensive, error prone, and unscalable. This paper proposes a novel scheme to automatically detect and flag fragments that are cost-effective cache units in web sites serving dynamic content. We consider ...

Keywords: L-P fragments, dynamic content caching, fragment detection, fragment-based caching, shared fragments

10 The <bigwig> project



Claus Brabrand, Anders Møller, Michael I. Schwartzbach

May 2002 **ACM Transactions on Internet Technology (TOIT)**, Volume 2 Issue 2

Publisher: ACM Press

Full text available: pdf(586.33 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present the results of the <bigwig> project, which aims to design and implement a high-level domain-specific language for programming interactive Web services.

A fundamental aspect of the development of the World Wide Web during the last decade is the gradual change from static to dynamic generation of Web pages. Generating Web pages dynamically in dialog with the client has the advantage of providing up-to-date and tailor-made information. The development of systems ...

Keywords: Interactive Web services, program analysis

11 A type system for dynamic Web documents



Anders Sandholm, Michael I. Schwartzbach

January 2000 **Proceedings of the 27th ACM SIGPLAN-SIGACT symposium on Principles of programming languages POPL '00**

Publisher: ACM Press

Full text available: pdf(1.32 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Many interactive Web services use the CGI interface for communication with clients. They will dynamically create HTML documents that are presented to the client who then resumes the interaction by submitting data through incorporated form fields. This protocol is difficult to statically type-check if the dynamic documents are created by arbitrary script code using printf-like statements. Previous proposals have suggested using static document templates which trades flexibility for safety. W ...

12 Measuring and characterizing end-to-end Internet service performance



Ludmila Cherkasova, Yun Fu, Wenting Tang, Amin Vahdat

November 2003 **ACM Transactions on Internet Technology (TOIT)**, Volume 3 Issue 4

Publisher: ACM Press

Full text available: pdf(1.46 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Fundamental to the design of reliable, high-performance network services is an understanding of the performance characteristics of the service as perceived by the client population as a whole. Understanding and measuring such end-to-end service performance is a challenging task. Current techniques include periodic sampling of service characteristics from strategic locations in the network and instrumenting Web pages with code that reports client-perceived latency back to a performance server. Li ...


Keywords: End-to-end service performance, QoS, network packet traces, passive monitoring, reconstruction of web page composition, web site performance

13 Software design, languages and systems: Template extraction from candidate template set generation: a structure and content approach



Hang Su, Qiaozhu Mei

March 2005 **Proceedings of the 43rd annual Southeast regional conference - Volume 2 ACM-SE 43**

Publisher: ACM PressFull text available:  pdf(467.05 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


This paper introduces a new approach of webpage template extraction. Unlike traditional methods which concern only content information, this paper considers both structure and content similarity. It uses natural table structure as content units instead of text blocks or pagelets. This paper novelly and formally defines the templates and other concepts. It introduces a new concept, *candidate template*, which is an intermediate level of abstract table structure. A candidate template only cov ...

Keywords: candidate template set, structure similarity, table informativeness, template extraction

14 Short Papers: Designing dynamic web pages and persistence in the WYSIWYG interface



David Wolber, Yingfeng Su, Yih Tsung Chiang

January 2002 **Proceedings of the 7th international conference on Intelligent user interfaces IUI '02****Publisher:** ACM PressFull text available:  pdf(132.75 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


WebSheets is a *programming in the WYSIWYG interface* tool for building dynamic web pages that access and modify databases. Without programming, designers can specify not only the presentation of a page, but the dynamic content as well. This capability is facilitated through a novel application of Programming by Example (PBE), Query by Example (QBE), and spreadsheet formulas within the WYSIWYG HTML editor environment.

Keywords: HTML, PBE, QBE, dynamic web pages, spreadsheets

15 XML transactions: An object-oriented extension of XML for autonomous web applications



Hasan M. Jamil, Giovanni A. Modica

November 2002 **Proceedings of the eleventh international conference on Information and knowledge management CIKM '02****Publisher:** ACM PressFull text available:  pdf(277.52 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

While the idea of extending XML to include object-oriented features has been gaining popularity in general, the potential of inheritance in document design has not been well recognized in contemporary research. In this paper we demonstrate that XML with dynamic inheritance aids better document designs and decreased management overheads and support increased autonomy. As an extended application, we point out that dynamic inheritance also helps effective automated web portal and ontology designs. W ...

Keywords: XML, autonomous objects, document structuring, dynamic object hierarchy, inheritance, object-orientation, web

16 Engineering design: Automatic accessibility evaluation of dynamic web pages generated through XSLT



André Pimenta Freire, Renata Pontin de Mattos Fortes

May 2005 **Proceedings of the 2005 International Cross-Disciplinary Workshop on Web Accessibility (W4A) W4A '05****Publisher:** ACM PressFull text available:  pdf(99.18 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Much effort has been dedicated to develop software aids for authoring and evaluating Web

pages using accessibility guidelines and standards. The evaluation of dynamic Web pages is a problem still unsolved in the field of automatic evaluation tools, since the current evaluators are only able to evaluate static Web pages. Stone and Dhiensa have addressed this problem, and proposed a method for evaluating the accessibility of dynamic Web pages using a generalized page which contains all possible ou ...

Keywords: XML, user interface, web accessibility evaluation

17 Research sessions: distributed systems: Proxy-based acceleration of dynamically generated content on the world wide web: an approach and implementation



Anindya Datta, Kaushik Dutta, Helen Thomas, Debra VanderMeer, Suresha, Krithi Ramamritham

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**

Publisher: ACM Press

Full text available: pdf(1.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

As Internet traffic continues to grow and web sites become increasingly complex, performance and scalability are major issues for web sites. Web sites are increasingly relying on dynamic content generation applications to provide web site visitors with dynamic, interactive, and personalized experiences. However, dynamic content generation comes at a cost --- each request requires computation as well as communication across multiple components. To address these issues, various dynamic content caching ...

Keywords: dynamic content, edge caching, proxy-based caching

18 Managing multimedia in documents: Applying caT's programmable browsing semantics to specify world-wide web documents that reflect place, time, reader, and community



Richard Furuta, Jin-Cheon Na

November 2002 **Proceedings of the 2002 ACM symposium on Document engineering DocEng '02**

Publisher: ACM Press

Full text available: pdf(947.45 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we discuss application of caT, which extends the Trellis Petri-net-based model of document/hypertext, towards specification of Web-browsable documents that respond to their reader's characteristics, browsing activities, use environment, and interactions with other readers. The Petri net basis provides both a graphical representation of the nodes and links in the hypertext and also an automaton-based specification of the browsing behaviors encountered by readers examining the hypertext ...

Keywords: Petri-net-based hypertext, Trellis, caT, context-aware hypertext

19 Education: Developing a universally accessible web portal for traditional and distance learning versions of a computer literacy course: an Auburn University case study



Daniela Marghitu, Chris Harmon, Kai Chang

March 2005 **Proceedings of the 43rd annual Southeast regional conference - Volume 1 ACM-SE 43**

Publisher: ACM Press

Full text available: pdf(767.64 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Information Technology (IT) offers a wide range of opportunities for education and career enhancement for those who have access to the technologies they employ. However, many people find themselves on the wrong side of the digital divide that separates those with access to new technologies and those without. Even if they have access to these

technologies, some people with disabilities find themselves on the wrong side of a second digital divide that is caused by the inaccessible design of course ...

Keywords: accessible web design and development, assistive technology, distance education

20 Document editing for the web: Templates, microformats and structured editing



Francesc Campoy Flores, Vincent Quint, Irène Vatton

October 2006 **Proceedings of the 2006 ACM symposium on Document engineering
DocEng '06**

Publisher: ACM Press

Full text available: pdf(236.63 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Microformats and semantic XHTML add semantics to web pages while taking advantage of the existing (X)HTML infrastructure. This approach enables new applications that can be deployed smoothly on the web. But there is currently no way to describe rigorously this type of markup and authors of web pages have very little help for creating and encoding semantic markup. A language that addresses these issues is presented in this paper. Its role is to specify semantically rich XML languages in terms of ...

Keywords: document authoring, document models, document templates, microformats, semantic XHTML, structure editing, world wide web

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1 [Dynamic parallel access to replicated content in the internet](#)

Pablo Rodriguez, Ernst W. Biersack

August 2002 **IEEE/ACM Transactions on Networking (TON)**, Volume 10 Issue 4

Publisher: IEEE Press

Full text available: pdf(350.99 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Popular content is frequently replicated in multiple servers or caches in the Internet to offload origin servers and improve end-user experience. However, choosing the best server is a nontrivial task and a bad choice may provide poor end user experience. In contrast to retrieving a file from a single server, we propose a parallel-access scheme where end users access multiple servers at the same time, fetching different portions of that file from different servers and reassembling them locally. ...

Keywords: HTTP, content distribution, internet, mirroring, parallel access, peer-to-peer, replication, web

2 [Applications: Dynamic coordination of information management services for processing dynamic web content](#)

In-Young Ko, Ke-Thia Yao, Robert Neches

May 2002 **Proceedings of the 11th international conference on World Wide Web WWW '02**

Publisher: ACM Press

Full text available: pdf(1.15 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dynamic Web content provides us with time-sensitive and continuously changing data. To glean up-to-date information, users need to regularly browse, collect and analyze this Web content. Without proper tool support this information management task is tedious, time-consuming and error prone, especially when the quantity of the dynamic Web content is large, when many information management services are needed to analyze it, and when underlying services/network are not completely reliable. This paper ...

Keywords: dynamic service coordination, dynamic web content, scalable component-based software systems, semantic interoperability, web information management systems

3 [Mobility & wireless access: Dynamic service reconfiguration for wireless web access](#)

Siu-Nam Chuang, Alvin T.S. Chan, Jiannong Cao, Ronnie Cheung

May 2003 **Proceedings of the 12th international conference on World Wide Web**

WWW '03**Publisher:** ACM PressFull text available:  pdf(620.78 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes a dynamic service reconfiguration model where the proxy is composed of a chain of service objects called mobilets (pronounced as mo-be-lets), which can be deployed onto the network actively. This model offers flexibility because the chain of mobilets can be dynamically reconfigured to adapt to the vigorous changes in the characteristics of the wireless environment, without interrupting the service provision for other mobile nodes. Furthermore, mobilets can also be migrated t ...

Keywords: active services, dynamic service reconfiguration, wireless environment adaptation, wireless web access

4 General applications: general applications: Applying parallel, dynamic-resolution simulations to accelerate VLSI power estimation

Dhananjai M. Rao, Philip A. Wilsey

December 2006 **Proceedings of the 38th conference on Winter simulation WSC '06****Publisher:** Winter Simulation ConferenceFull text available:  pdf(191.64 KB)Additional Information: [full citation](#), [abstract](#), [references](#)

High resolution models of logic circuits need to be used in simulations to accurately track logic transitions or glitches, which contribute to the most dominant portion of VLSI power dissipated. Unfortunately, simulating large, high resolution models is a time consuming task. Although more abstract models that simulate faster can be used, they are less accurate as details of glitching activity are absent. This study proposes an alternatively approach that dynamically (i.e., during simulation) ch ...

5 Dynamic role allocation for small search engine clusters



Ndapandula Nakashole, Hussein Suleman, Calvin Pedzai


October 2007 **Proceedings of the 2007 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing countries SAICSIT '07****Publisher:** ACM PressFull text available:  pdf(290.58 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Search engines facilitate efficient discovery of information in large information environments such as the Web. As the amount of information rapidly increases, search engines require greater computational resources. Similarly, as the user base increases search engines need to handle increasing numbers of user requests. Existing solutions to these scalability problems are often designed for large computer clusters. This paper presents a flexible solution that is deployable also on small clusters ...

Keywords: dynamic allocation, indexing, querying, small search engine cluster

6 Web-based and Java-based simulation: Dynamic component substitution in web-based simulation

Dhananjai Madhava Rao, Philip A. Wilsey

December 2000 **Proceedings of the 32nd conference on Winter simulation WSC '00****Publisher:** Society for Computer Simulation InternationalFull text available:  pdf(90.08 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Recent breakthroughs in communication and software engineering has resulted in significant growth of web-based computing. Web-based techniques have been employed for modeling, simulation, and analysis of systems. The models for simulation are usually developed using component based techniques. In a component based model, a system is represented as a set of interconnected components. A component is a well defined software module that is viewed as a "black box" i.e., only its interface is o ...

7 DDD papers: Domain driven web development with WebJinn

Sergei Kojarski, David H. Lorenz

October 2003 **Companion of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications OOPSLA '03**

Publisher: ACM Press

Full text available: pdf(266.32 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Web application development cuts across the HTTP protocol, the client-side presentation language (HTML, XML), the server-side technology (Servlets, JSP, ASP, PHP), and the underlying resource (files, database, information system). Consequently, web development concerns including functionality, presentation, control, and structure cross-cut, leading to tangled and scattered code that is hard to develop, maintain, and reuse. In this paper we analyze the cause, consequence, and remedy for this cross ...

Keywords: JSP, adaptability, aspect-oriented programming (AOP), crosscutting concerns, dynamic pages, generative programming, inter-crosscutting, intra-crosscutting, model-view-controller (MVC), reusability, scattering, struts, tangling, web application, web development, web programming

8 Web system-oriented performance: Capacity planning tools for web and grid environments

Sugato Bagchi, Eugene Hung, Arun Iyengar, Norbert Vogl, Noshir Wadia

October 2006 **Proceedings of the 1st international conference on Performance evaluation methodologies and tools valuetools '06**

Publisher: ACM Press

Full text available: pdf(453.91 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A key aspect in managing resources for customer sites is to predict and assess the load associated with a site in order to figure out how best to allocate resources for the site over time and to efficiently schedule tasks. The cost associated with the site and return on investment are also key parameters. This paper describes work we have done in developing tools for answering these critical questions. The tools use both analytical models and discrete event simulations to predict performance and ...

Keywords: capacity planning, grid computing, performance modeling, web performance

9 Web mining and its SQL based parallel execution

Masaru Kitsuregawa, Takahiko Shintani, Iko Pramudiono

January 2001 **Australian Computer Science Communications , Proceedings of the workshop on Information technology for virtual enterprises ITVE '01 , Proceedings of the workshop on Information technology for virtual enterprises ITVE '01**, Volume 23 Issue 6

Publisher: IEEE Computer Society, IEEE Computer Society Press

Full text available: pdf(674.03 KB) Additional Information: [full citation](#), [abstract](#), [references](#)
 [Publisher Site](#)

Web mining can be classified into two categories, Web access log mining and Web structure mining. We performed association rule mining and sequence pattern mining against the access log which was accumulated at NTT Software Mobile Info Search portal site. Detail web log mining process and the rules we derived are reported in this paper. The parallel association rule mining is explored on large scale PC cluster system. Parallelism is key to improve the performance. We achieved substantial speed u ...

10 The state of the art in locally distributed Web-server systems

Valeria Cardellini, Emiliano Casalicchio, Michele Colajanni, Philip S. Yu

June 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 2**Publisher:** ACM PressFull text available: [pdf\(1.41 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The overall increase in traffic on the World Wide Web is augmenting user-perceived response times from popular Web sites, especially in conjunction with special events. System platforms that do not replicate information content cannot provide the needed scalability to handle large traffic volumes and to match rapid and dramatic changes in the number of clients. The need to improve the performance of Web-based services has produced a variety of novel content delivery architectures. This article w ...

Keywords: Client/server, World Wide Web, cluster-based architectures, dispatching algorithms, distributed systems, load balancing, routing mechanisms

11 The Web as a parallel corpus

Philip Resnik, Noah A. Smith

September 2003 **Computational Linguistics**, Volume 29 Issue 3**Publisher:** MIT PressFull text available: [pdf\(539.83 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Parallel corpora have become an essential resource for work in multilingual natural language processing. In this article, we report on our work using the STRAND system for mining parallel text on the World Wide Web, first reviewing the original algorithm and results and then presenting a set of significant enhancements. These enhancements include the use of supervised learning based on structural features of documents to improve classification performance, a new content-based measure of translati ...

12 Web technologies and applications (WTA): An empirical evaluation of client-side server selection policies for accessing replicated web services

Nabor C. Mendonça, José Aírton F. Silva

March 2005 **Proceedings of the 2005 ACM symposium on Applied computing SAC '05****Publisher:** ACM PressFull text available: [pdf\(231.14 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Replicating web services at geographically distributed servers can offer client applications with a number of benefits, including higher service availability and improved response time. However, selecting the "best" server to invoke at the client side is not a trivial task, as this decision needs to account for (and is affected by) a number of factors, such as local connection capacity, external network conditions and servers workload. This paper presents the results of an experiment in which we ...

Keywords: empirical evaluation, replicated web services, server selection

13 Web-based simulation: Web-based simulation 2: performance prediction of dynamic component substitutions

Dhananjai M. Rao, Philip A. Wilsey

December 2002 **Proceedings of the 34th conference on Winter simulation: exploring new frontiers WSC '02****Publisher:** Winter Simulation ConferenceFull text available: [pdf\(176.82 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#)

The Web-based Environment for Systems Engineering (wese) is a web-based modeling and simulation environment in which the level of abstraction of a model can be configured *statically* (prior to simulation) or *dynamically* (during simulation) by substituting a *module* (set of components) with an equivalent component or vice versa through a process called Dynamic Component Substitution (DCS). DCS can considerably improve the overall efficiency of simulat ...

14 Technical papers: Revisiting web server workload invariants in the context of scientific web sites

Anne M. Faber, Minaxi Gupta, Camilo H. Viecco

November 2006 **Proceedings of the 2006 ACM/IEEE conference on Supercomputing SC '06**

Publisher: ACM Press

Full text available:  pdf(482.54 KB)
 html(2.02 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The Web has evolved much from when Arlitt and Williamson proposed the ten Web workload invariants more than a decade ago. Many diverse communities now depend on the Web in their day-to-day lives. A current knowledge of the invariants for the Web is useful for performance enhancement and for synthetic Web workload generation. Invariants can also serve as a useful tool for detecting anomaly and misuse, a new dimension of Web usage arising from the change in trust assumptions in the Internet in the ...

15 Web searching: Specialisation dynamics in federated web search

Rinat Khossainov, Nicholas Kushmerick

November 2004 **Proceedings of the 6th annual ACM international workshop on Web information and data management WIDM '04**

Publisher: ACM Press

Full text available:  pdf(138.32 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Organising large-scale Web information retrieval systems into hierarchies of topic-specific search resources can improve both the quality of results and the efficient use of computing resources. A promising way to build such systems involves federations of topic-specific search engines in decentralised search environments. Most of the previous research concentrated on various technical aspects of such environments (e.g. routing of search queries or merging of results from multiple sources). W ...

Keywords: competition, federated web search, topic specialisation

16 Efficient algorithms for Web services selection with end-to-end QoS constraints

Tao Yu, Yue Zhang, Kwei-Jay Lin

May 2007 **ACM Transactions on the Web (TWEB)**, Volume 1 Issue 1

Publisher: ACM Press

Full text available:  pdf(832.74 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Service-Oriented Architecture (SOA) provides a flexible framework for service composition. Using standard-based protocols (such as SOAP and WSDL), composite services can be constructed by integrating atomic services developed independently. Algorithms are needed to select service components with various QoS levels according to some application-dependent performance requirements. We design a broker-based architecture to facilitate the selection of QoS-based services. The objective of service s ...


Keywords: End-to-end QoS, Web services, service composition, service oriented architecture (SOA), service selection

17 Parallelization of a dynamic unstructured application using three leading paradigms

Leonid Oliker, Rupak Biswas

January 1999 **Proceedings of the 1999 ACM/IEEE conference on Supercomputing (CDROM) Supercomputing '99**

Publisher: ACM Press

Full text available:  pdf(1.04 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

18 Cross-language information retrieval: Translating unknown queries with web corpora for cross-language information retrieval



Pu-Jen Cheng, Jei-Wen Teng, Ruei-Cheng Chen, Jenq-Haur Wang, Wen-Hsiang Lu, Lee-Feng Chien

July 2004 **Proceedings of the 27th annual international ACM SIGIR conference on Research and development in information retrieval SIGIR '04**

Publisher: ACM Press

Full text available: pdf(387.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

It is crucial for cross-language information retrieval (CLIR) systems to deal with the translation of unknown queries due to that real queries might be short. The purpose of this paper is to investigate the feasibility of exploiting the Web as the corpus source to translate unknown queries for CLIR. We propose an online translation approach to determine effective translations for unknown query terms via mining of bilingual search-result pages obtained from Web search engines. This approach can a ...

Keywords: cross-language information retrieval, cross-language web search, query translation

19 Creating multilingual translation lexicons with regional variations using web corpora

Pu-Jen Cheng, Yi-Cheng Pan, Wen-Hsiang Lu, Lee-Feng Chien

July 2004 **Proceedings of the 42nd Annual Meeting on Association for Computational Linguistics ACL '04**

Publisher: Association for Computational Linguistics

Full text available: pdf(303.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

The purpose of this paper is to automatically create multilingual translation lexicons with regional variations. We propose a transitive translation approach to determine translation variations across languages that have insufficient corpora for translation via the mining of bilingual search-result pages and clues of geographic information obtained from Web search engines. The experimental results have shown the feasibility of the proposed approach in efficiently generating translation equivalen ...

20 A performance comparison of dynamic Web technologies



Lance Titchkosky, Martin Arlitt, Carey Williamson

December 2003 **ACM SIGMETRICS Performance Evaluation Review**, Volume 31 Issue 3

Publisher: ACM Press

Full text available: pdf(1.02 MB) Additional Information: [full citation](#), [abstract](#), [references](#)

Today, many Web sites dynamically generate responses "on the fly" when user requests are received. In this paper, we experimentally evaluate the impact of three different dynamic content technologies (Perl, PHP, and Java) on Web server performance. We quantify achievable performance first for static content serving, and then for dynamic content generation, considering cases both with and without database access. The results show that the overheads of dynamic content generation reduce the peak re ...

Keywords: Dynamic Content Generation, Performance Evaluation, Web Performance, Web Server Benchmarking

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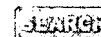


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1 [Engineering design: Automatic accessibility evaluation of dynamic web pages generated through XSLT](#)

André Pimenta Freire, Renata Pontin de Mattos Fortes

May 2005 **Proceedings of the 2005 International Cross-Disciplinary Workshop on Web Accessibility (W4A) W4A '05**

Publisher: ACM Press

Full text available: pdf(99.18 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Keywords: XML, user interface, web accessibility evaluation

2 [A performance comparison of dynamic Web technologies](#)

Lance Titchkosky, Martin Arlitt, Carey Williamson

December 2003 **ACM SIGMETRICS Performance Evaluation Review**, Volume 31 Issue 3

Publisher: ACM Press

Full text available: pdf(1.02 MB) Additional Information: [full citation](#), [abstract](#), [references](#)

Today, many Web sites dynamically generate responses "on the fly" when user requests are received. In this paper, we experimentally evaluate the impact of three different dynamic content technologies (Perl, PHP, and Java) on Web server performance. We quantify achievable performance first for static content serving, and then for dynamic content generation, considering cases both with and without database access. The results show that the overheads of dynamic content generation reduce the peak re ...


Keywords: Dynamic Content Generation, Performance Evaluation, Web Performance, Web Server Benchmarking

3 [Research sessions: distributed systems: Proxy-based acceleration of dynamically generated content on the world wide web: an approach and implementation](#)

Anindya Datta, Kaushik Dutta, Helen Thomas, Debra VanderMeer, Suresha, Krithi Ramamritham

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**


Publisher: ACM Press

Full text available:  pdf(1.37 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

As Internet traffic continues to grow and web sites become increasingly complex, performance and scalability are major issues for web sites. Web sites are increasingly relying on dynamic content generation applications to provide web site visitors with dynamic, interactive, and personalized experiences. However, dynamic content generation comes at a cost --- each request requires computation as well as communication across multiple components. To address these issues, various dynamic content caching ...

Keywords: dynamic content, edge caching, proxy-based caching

4 [Full Technical Papers: Dynamic web page authoring by example using ontology-based domain knowledge](#)

 José A. Macías, Pablo Castells

January 2003 **Proceedings of the 8th international conference on Intelligent user interfaces IUI '03**


Publisher: ACM Press

Full text available:  pdf(469.78 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Authoring dynamic web pages is an inherently difficult task. We present DESK, an interactive authoring tool that allows the customization of dynamic page generation procedures with no a-priori tool-specific skill requirements from authors. Our approach consists of combining Programming By Example (PBE) techniques with an ontology-based representation of knowledge displayed in web pages. DESK acts as a client-side complement of a dynamic web page generation system, PEGASUS, which generates HTML pages ...

Keywords: knowledge-based UI design, model-based paradigm, ontology, programming by example

5 [Proxy-based acceleration of dynamically generated content on the world wide web: An approach and implementation](#)

 Anindya Datta, Kaushik Dutta, Helen Thomas, Debra Vandermeer, Krithi Ramamritham

June 2004 **ACM Transactions on Database Systems (TODS)**, Volume 29 Issue 2


Publisher: ACM Press

Full text available:  pdf(927.23 KB)Additional Information: [full citation](#), [appendices and supplements](#), [abstract](#), [references](#), [index terms](#)

As Internet traffic continues to grow and websites become increasingly complex, performance and scalability are major issues for websites. Websites are increasingly relying on dynamic content generation applications to provide website visitors with dynamic, interactive, and personalized experiences. However, dynamic content generation comes at a cost---each request requires computation as well as communication across multiple components. To address these issues, various dynamic content caching approaches ...


Keywords: Edge caching, caching dynamically generated content, fragment caching, implementation, proxy caching, world wide web

6 [Applications: Dynamic coordination of information management services for processing dynamic web content](#)

 In-Young Ko, Ke-Thia Yao, Robert Neches

May 2002 **Proceedings of the 11th international conference on World Wide Web WWW '02**

Publisher: ACM Press

Full text available:  pdf(1.15 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dynamic Web content provides us with time-sensitive and continuously changing data. To glean up-to-date information, users need to regularly browse, collect and analyze this Web content. Without proper tool support this information management task is tedious, time-consuming and error prone, especially when the quantity of the dynamic Web content is large, when many information management services are needed to analyze it, and when underlying services/network are not completely reliable. This paper ...

Keywords: dynamic service coordination, dynamic web content, scalable component-based software systems, semantic interoperability, web information management systems

7 Generating dynamic content at database-backed web servers: cgi-bin vs. mod_perl



Alexandros Labrinidis, Nick Roussopoulos

March 2000 **ACM SIGMOD Record**, Volume 29 Issue 1

Publisher: ACM Press

Full text available: pdf(508.64 KB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Web servers are increasingly being used to deliver dynamic content rather than static HTML pages. In order to generate web pages dynamically, servers need to execute a script, which typically connects to a DBMS. Although CGI was the first approach at server side scripting, it has significant performance shortcomings. Currently, there are many alternative server side scripting architectures which offer better performance than CGI. In this paper, we report our experiences using mod_pe ...

8 Versioning and fragmentation: Automatic detection of fragments in dynamically generated web pages



Lakshmish Ramaswamy, Arun Iyengar, Ling Liu, Fred Douglass

May 2004 **Proceedings of the 13th international conference on World Wide Web WWW '04**

Publisher: ACM Press

Full text available: pdf(268.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dividing web pages into fragments has been shown to provide significant benefits for both content generation and caching. In order for a web site to use fragment-based content generation, however, good methods are needed for dividing web pages into fragments. Manual fragmentation of web pages is expensive, error prone, and unscalable. This paper proposes a novel scheme to automatically detect and flag fragments that are cost-effective cache units in web sites serving dynamic content. We consider ...

Keywords: L-P fragments, dynamic content caching, fragment detection, fragment-based caching, shared fragments

9 Efficiently serving dynamic data at highly accessed web sites

James R. Challenger, Paul Dantzic, Arun Iyengar, Mark S. Squillante, Li Zhang

April 2004 **IEEE/ACM Transactions on Networking (TON)**, Volume 12 Issue 2

Publisher: IEEE Press

Full text available: pdf(499.05 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present architectures and algorithms for efficiently serving dynamic data at highly accessed Web sites together with the results of an analysis motivating our design and quantifying its performance benefits. This includes algorithms for keeping cached data consistent so that dynamic pages can be cached at the Web server and dynamic content can be served at the performance level of static content. We show that our system design is able to achieve cache hit ratios close to 100% for cached data ...

Keywords: caching, dynamic content, performance analysis, prefetching, stochastic models, web sites

10 Dynamic services and analysis: Engineering and hosting adaptive freshness-sensitive web applications on data centers

Wen-Syan Li, Oliver Po, Wang-Pin Hsiung, K. Selçuk Candan, Divyakant Agrawal
May 2003 **Proceedings of the 12th international conference on World Wide Web WWW '03**

Publisher: ACM Press

Full text available:  pdf(10.31 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Wide-area database replication technologies and the availability of content delivery networks allow Web applications to be hosted and served from powerful data centers. This form of application support requires a complete Web application suite to be distributed along with the database replicas. A major advantage of this approach is that dynamic content is served from locations closer to users, leading into reduced network latency and fast response times. However, this is achieved at the expense ...

Keywords: database-driven web applications, dynamic content, freshness, response time, net-work latency, web acceleration

11 Multimodal, multidevice and beyond: Dynamic generation of web migratory interfaces

Renata Bandelloni, Giulio Mori, Fabio Paternò
September 2005 **Proceedings of the 7th international conference on Human computer interaction with mobile devices & services MobileHCI '05**

Publisher: ACM Press

Full text available:  pdf(1.72 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


In this paper, we present a solution for dynamic generation of Web user interfaces that can dynamically migrate among different platforms. The solution is based on a migration/proxy server able to automatically convert a desktop service into a service accessible from a different platform, such as a mobile one. This solution can support new environments where users can freely move about and change interaction device while still continuing task performance and accessing the application in a usable ...

Keywords: automatic transformations, migratory interfaces, model-based design, ubiquitous environments

12 Session 8: distributed systems: Transparent caching with strong consistency in dynamic content web sites

Cristiana Amza, Gokul Soundararajan, Emmanuel Cecchet
June 2005 **Proceedings of the 19th annual international conference on Supercomputing ICS '05**

Publisher: ACM Press

Full text available:  pdf(370.07 KB)


Additional Information: [full citation](#), [abstract](#), [references](#)

We consider a cluster architecture in which dynamic content is generated by a database back-end and a collection of Web and application server front-ends. We study the effect of transparent query caching on the performance of such a cluster. Transparency requires that cached entries be invalidated as a result of writes. We start with a coarse-grain table-level automatic invalidation cache. Based on observed workload characteristics, we enhance the cache with the necessary dependency tracking and ...

13 A fragment-based approach for efficiently creating dynamic web content

Jim Challenger, Paul Dantzig, Arun Iyengar, Karen Witting
May 2005 **ACM Transactions on Internet Technology (TOIT)**, Volume 5 Issue 2


Publisher: ACM Press

Full text available:  pdf(2.33 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This article presents a publishing system for efficiently creating dynamic Web content. Complex Web pages are constructed from simpler fragments. Fragments may recursively embed other fragments. Relationships between Web pages and fragments are represented by object dependence graphs. We present algorithms for efficiently detecting and updating Web pages affected after one or more fragments change. We also present algorithms for publishing sets of Web pages consistently; different algorithms are ...

Keywords: Caching, Web, Web performance, dynamic content, fragments, publishing

14 Session 6: web services II: Model driven distribution pattern design for dynamic web service compositions

 Ronan Barrett, Lucian M. Patcas, Claus Pahl, John Murphy

July 2006 **Proceedings of the 6th international conference on Web engineering ICWE '06**

Publisher: ACM Press

Full text available:  pdf(238.91 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web service compositions are often used to realise service-based enterprise applications. These enterprise systems are built from many existing discrete applications, often legacy applications exposed using Web service interfaces. Acceptance of these systems is often constrained by non-functional aspects, such as Quality of Service (QoS). A number of factors affect the QoS of an enterprise system, including availability, scalability and performance. There are a number of architectural configurations o ...

Keywords: compositions, decentralisation, distribution patterns, mda, web services

15 Session 4: modeling and tools I: Modeling and generating application logic for data-intensive web applications

 Mihály Jakob, Holger Schwarz, Fabian Kaiser, Bernhard Mitschang

July 2006 **Proceedings of the 6th international conference on Web engineering ICWE '06**


Publisher: ACM Press

Full text available:  pdf(283.71 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

This paper presents a new approach for the development of data-intensive web applications that depend on sophisticated application logic. E-Commerce web sites, on-line auction systems and large enterprise web portals fall into this category as they require comprehensive data access, data processing and data manipulation capabilities. However, existing methodologies mainly concentrate on modeling content, navigation and presentation aspects of read-only web sites. In our opinion these models are ...


Keywords: application logic modeling, code generation, data-intensive applications, object-orientation, web application design

16 Scalable systems for dynamic content: Globetp: template-based database replication for scalable web applications

 Tobias Groothuyse, Swaminathan Sivasubramanian, Guillaume Pierre

May 2007 **Proceedings of the 16th international conference on World Wide Web WWW '07**

Publisher: ACM Press

Full text available:  pdf(238.13 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Generic database replication algorithms do not scale linearly in throughput as all update, deletion and insertion (UDI) queries must be applied to every database replica. The

throughput is therefore limited to the point where the number of UDI queries alone is sufficient to overload one server. In such scenarios, partial replication of a database can help, as UDI queries are executed only by a subset of all servers. In this paper we propose GlobeTP, a system that employs partial replication t ...

Keywords: database replication, partial replication, scalability, web applications

17 Dynamic content acceleration: a caching solution to enable scalable dynamic Web page generation



Anindya Datta, Kaushik Dutta, Krithi Ramamritham, Helen Thomas, Debra VanderMeer
May 2001 **ACM SIGMOD Record , Proceedings of the 2001 ACM SIGMOD international conference on Management of data SIGMOD '01**, Volume 30 Issue 2

Publisher: ACM Press

Full text available: pdf(57.58 KB) Additional Information: [full citation](#), [citations](#), [index terms](#)

18 Engineering server-driven consistency for large scale dynamic Web services



Jian Yin, Lorenzo Alvisi, Mike Dahlin, Arun Iyengar
April 2001 **Proceedings of the 10th international conference on World Wide Web WWW '01**

Publisher: ACM Press

Full text available: pdf(291.44 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: Web cache consistency, dynamic content, performance, scalability, volume lease

19 Enabling dynamic content caching for database-driven web sites



K. Selçuk Candan, Wen-Syan Li, Qiong Luo, Wang-Pin Hsiung, Divyakant Agrawal
May 2001 **ACM SIGMOD Record , Proceedings of the 2001 ACM SIGMOD international conference on Management of data SIGMOD '01**, Volume 30 Issue 2

Publisher: ACM Press

Full text available: pdf(319.67 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Web performance is a key differentiation among content providers. Snafus and slowdowns at major web sites demonstrate the difficulty that companies face trying to scale to a large amount of web traffic. One solution to this problem is to store web content at server-side and edge-caches for fast delivery to the end users. However, for many e-commerce sites, web pages are created dynamically based on the current state of business processes, represented in application servers and *databases*

Keywords: JDBC, application server, database driven web site, dynamic content caching, invalidation, web acceleration

20 Evaluating the performance of user-space and kernel-space web servers

Amol Shukla, Lily Li, Anand Subramanian, Paul A. S. Ward, Tim Brecht
October 2004 **Proceedings of the 2004 conference of the Centre for Advanced Studies on Collaborative research CASCON '04**

Publisher: IBM Press

Full text available: pdf(91.70 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

There has been much debate over the past few years about the practice of moving traditional user-space applications, such as web servers, into the kernel for better performance. Recently, the user-space userver web server has shown promising performance for delivering static content. In this paper we first describe how we




augmented the userver to enable it to serve dynamic content. We then evaluate the performance of the userver and the kernel-space TUX web server, using the SPECweb99 workloa ...

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1 [A scalable and highly available system for serving dynamic data at frequently accessed web sites](#)

Jim Challenger, Paul Dantzig, Arun Iyengar

November 1998 **Proceedings of the 1998 ACM/IEEE conference on Supercomputing (CDROM) Supercomputing '98**

Publisher: IEEE Computer Society

Full text available: pdf(195.17 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper describes the system and key techniques used for achieving performance and high availability at the official Web site for the 1998 Olympic Winter Games which was one of the most popular Web sites for the duration of the Olympic Games. The Web site utilized thirteen SP2 systems scattered around the globe containing a total of 143 processors. A key feature of the Web site was that the data being presented to clients was constantly changing. Whenever new results were entered into the sys ...

2 [Efficiently serving dynamic data at highly accessed web sites](#)

James R. Challenger, Paul Dantzig, Arun Iyengar, Mark S. Squillante, Li Zhang

April 2004 **IEEE/ACM Transactions on Networking (TON)**, Volume 12 Issue 2

Publisher: IEEE Press

Full text available: pdf(499.05 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present architectures and algorithms for efficiently serving dynamic data at highly accessed Web sites together with the results of an analysis motivating our design and quantifying its performance benefits. This includes algorithms for keeping cached data consistent so that dynamic pages can be cached at the Web server and dynamic content can be served at the performance level of static content. We show that our system design is able to achieve cache hit ratios close to 100% for cached data ...

Keywords: caching, dynamic content, performance analysis, prefetching, stochastic models, web sites

3 [Engineering server-driven consistency for large scale dynamic Web services](#)



Jian Yin, Lorenzo Alvisi, Mike Dahlin, Arun Iyengar

April 2001 **Proceedings of the 10th international conference on World Wide Web WWW '01**

Publisher: ACM Press

Full text available: pdf(291.44 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: Web cache consistency, dynamic content, performance, scalability, volume lease

4 Engineering web cache consistency



Jian Yin, Lorenzo Alvisi, Mike Dahlin, Arun Iyengar

August 2002 **ACM Transactions on Internet Technology (TOIT)**, Volume 2 Issue 3

Publisher: ACM Press

Full text available: pdf(403.96 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Server-driven consistency protocols can reduce read latency and improve data freshness for a given network and server overhead, compared to the traditional consistency protocols that rely on client polling. Server-driven consistency protocols appear particularly attractive for large-scale dynamic Web workloads because dynamically generated data can change rapidly and unpredictably. However, there have been few reports on engineering server-driven consistency for such workloads. This article repo ...

Keywords: Cache coherence, cache consistency, dynamic content, lease, scalability, volume

5 Adaptive push-pull: disseminating dynamic web data



Pavan Deolasee, Amol Katkar, Ankur Panchbudhe, Krithi Ramamritham, Prashant Shenoy

April 2001 **Proceedings of the 10th international conference on World Wide Web WWW '01**

Publisher: ACM Press

Full text available: pdf(152.08 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: World Wide Web, data dissemination, dynamic data, pull, push, resiliency, scalability, temporal coherency

6 A fragment-based approach for efficiently creating dynamic web content



Jim Challenger, Paul Dantzig, Arun Iyengar, Karen Witting

May 2005 **ACM Transactions on Internet Technology (TOIT)**, Volume 5 Issue 2

Publisher: ACM Press

Full text available: pdf(2.33 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This article presents a publishing system for efficiently creating dynamic Web content. Complex Web pages are constructed from simpler fragments. Fragments may recursively embed other fragments. Relationships between Web pages and fragments are represented by object dependence graphs. We present algorithms for efficiently detecting and updating Web pages affected after one or more fragments change. We also present algorithms for publishing sets of Web pages consistently; different algorithms are ...

Keywords: Caching, Web, Web performance, dynamic content, fragments, publishing

7 A client-aware dispatching algorithm for web clusters providing multiple services



Emiliano Casalicchio, Michele Colajanni


April 2001 **Proceedings of the 10th international conference on World Wide Web WWW '01**

Publisher: ACM Press


Full text available: pdf(311.46 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: clusters, dispatching algorithms, load balancing

8 XML query processing I: Dynamic XML documents with distribution and replication


 Serge Abiteboul, Angela Bonifati, Grégory Cobéna, Ioana Manolescu, Tova Milo
June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data SIGMOD '03**

Publisher: ACM Press


Full text available:  pdf(209.06 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The advent of XML as a universal exchange format, and of Web services as a basis for distributed computing, has fostered the apparition of a new class of documents: *dynamic XML documents*. These are XML documents where some data is given explicitly while other parts are given only intensionally by means of embedded calls to web services that can be called to generate the required information. By the sole presence of Web services, dynamic documents already include inherently some form of di ...

9 The content and access dynamics of a busy Web site: findings and implications

 Venkata N. Padmanabhan, Lili Qiu
August 2000 **ACM SIGCOMM Computer Communication Review, Proceedings of the conference on Applications, Technologies, Architectures, and Protocols for Computer Communication SIGCOMM '00**, Volume 30 Issue 4

Publisher: ACM Press


Full text available:  pdf(820.58 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper, we study the dynamics of the MSNBC news site, one of the busiest Web sites in the Internet today. Unlike many other efforts that have analyzed client accesses as seen by proxies, we focus on the server end. We analyze the dynamics of both the server content and client accesses made to the server. The former considers the content creation and modification process while the latter considers page popularity and locality in client accesses. Some of our key results are: (a) files ...

10 Analysis of lexical signatures for improving information persistence on the World Wide Web

 Seung-Taek Park, David M. Pennock, C. Lee Giles, Robert Krovetz
October 2004 **ACM Transactions on Information Systems (TOIS)**, Volume 22 Issue 4

Publisher: ACM Press

Full text available:  pdf(808.10 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A *lexical signature* (LS) consisting of several key words from a Web document is often sufficient information for finding the document later, even if its URL has changed. We conduct a large-scale empirical study of nine methods for generating lexical signatures, including Phelps and Wilensky's original proposal (PW), seven of our own static variations, and one new dynamic method. We examine their performance on the Web over a 10-month period, and on a TREC data set, evaluating t ...

Keywords: Broken URLs, TREC, World Wide Web, dead links, digital libraries, indexing, information retrieval, inverse document frequency, lexical signatures, robust hyperlinks, search engines, term frequency

11 Posters: Web page summarization using dynamic content

 Adam Jatowt
May 2004 **Proceedings of the 13th international World Web conference on Alternate track papers & posters WWW Alt. '04**

Publisher: ACM Press

Full text available:  pdf(151.56 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Summarizing web pages have recently gained much attention from researchers. Until now two main types of approaches have been proposed for this task: content- and context-based methods. Both of them assume fixed content and characteristics of web documents without considering their dynamic nature. However the volatility of information published on the Internet argue for the implementation of more time-aware techniques. This paper proposes a new approach towards automatic web page description, whi ...

Keywords: change detection, web document, web page summarization

12 Issues and evaluations of caching solutions for web application acceleration

Wen-Syan Li, Wang-Pin Hsiung, Dmitri V. Kalashnikov, Radu Sion, Oliver Po, Divyakant Agrawal, K. Selçuk Candan

August 2002 **Proceedings of the 28th international conference on Very Large Data Bases - Volume 28 VLDB '2002**

Publisher: VLDB Endowment

Full text available:  pdf(14.12 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Response time is a key differentiation among electronic commerce (e-commerce) applications. For many e-commerce applications, Web pages are created dynamically based on the current state of a business stored in database systems. Recently, the topic of Web acceleration for database-driven Web applications has drawn a lot of attention in both the research community and commercial arena. In this paper, we analyze the factors that have impacts on the performance and scalability of Web application ...

13 On disk caching of Web objects in proxy servers

 Charu G. Aggarwal, Philip S. Yu

January 1997 **Proceedings of the sixth international conference on Information and knowledge management CIKM '97**

Publisher: ACM Press

Full text available:  pdf(911.21 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


14 Versioning and fragmentation: Automatic detection of fragments in dynamically generated web pages



Lakshmesh Ramaswamy, Arun Iyengar, Ling Liu, Fred Douglass

May 2004 **Proceedings of the 13th international conference on World Wide Web WWW '04**

Publisher: ACM Press

Full text available:  pdf(268.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dividing web pages into fragments has been shown to provide significant benefits for both content generation and caching. In order for a web site to use fragment-based content generation, however, good methods are needed for dividing web pages into fragments. Manual fragmentation of web pages is expensive, error prone, and unscalable. This paper proposes a novel scheme to automatically detect and flag fragments that are cost-effective cache units in web sites serving dynamic content. We consider ...

Keywords: L-P fragments, dynamic content caching, fragment detection, fragment-based caching, shared fragments


15 Model-driven simulation of World-Wide-Web cache policies



Ying Shi, Edward Watson, Ye-sho Chen

December 1997 **Proceedings of the 29th conference on Winter simulation WSC '97**

Publisher: ACM Press, IEEE Computer Society

Full text available:  pdf(773.92 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

16 Applications: Efficient and transparent dynamic content updates for mobile clients



Trevor Armstrong, Olivier Trescases, Cristiana Amza, Eyal de Lara

June 2006 **Proceedings of the 4th international conference on Mobile systems, applications and services MobiSys 2006**

Publisher: ACM Press

Full text available: pdf(378.99 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We introduce a novel infrastructure supporting automatic updates for dynamic content browsing on resource constrained mobile devices. Currently, the client is forced to continuously poll for updates from potentially different data sources, such as, e-commerce, on-line auctions, stock and weather sites, to stay up to date with potential changes in content. We employ a pair of proxies, located on the mobile client and on a fully-connected edge server, respectively, to minimize the battery consumpt ...

Keywords: batching, caching, energy measurement, mobile wireless communication, power management, pre-fetching, proxy

17 Consistency and replication: Evaluation of edge caching/offloading for dynamic content delivery



Chun Yuan, Yu Chen, Zheng Zhang

May 2003 **Proceedings of the 12th international conference on World Wide Web WWW '03**

Publisher: ACM Press

Full text available: pdf(161.49 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

As dynamic content becomes increasingly dominant, it becomes an important research topic as how the edge resources such as client-side proxies, which are otherwise underutilized for such content, can be put into use. However, it is unclear what will be the best strategy and the design/deployment tradeoffs lie therein. In this paper, using one representative e-commerce benchmark, we report our experience of an extensive investigation of different offloading and caching options. Our results point ...

Keywords: dynamic content, edge caching, offloading

18 Server performance and scalability: Challenges and practices in deploying web acceleration solutions for distributed enterprise systems



Wen-Syan Li, Wang-Pin Hsiung, Oliver Po, Koji Hino, Kasim Selcuk Candan, Divyakant Agrawal

May 2004 **Proceedings of the 13th international conference on World Wide Web WWW '04**

Publisher: ACM Press

Full text available: pdf(6.61 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

For most Web-based applications, contents are created dynamically based on the current state of a business, such as product prices and inventory, stored in database systems. These applications demand personalized content and track user behavior while maintaining application integrity. Many of such practices are not compatible with Web acceleration solutions. Consequently, although many web acceleration solutions have shown promising performance improvement and scalability, architecting and engin ...

Keywords: application server, dynamic content, edge server, fragment, j2ee, reliability, scalability, web acceleration

19

Web crawling and measurement: Monitoring the dynamic web to respond to continuous queries



Sandeep Pandey, Krithi Ramamritham, Soumen Chakrabarti

May 2003 **Proceedings of the 12th international conference on World Wide Web WWW '03**

Publisher: ACM Press

Full text available: pdf(151.32 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Continuous queries are queries for which responses given to users must be continuously updated, as the sources of interest get updated. Such queries occur, for instance, during on-line decision making, e.g., traffic flow control, weather monitoring, etc. The problem of keeping the responses current reduces to the problem of deciding how often to visit a source to determine if and how it has been modified, in order to update earlier responses accordingly. On the surface, this seems to be similar ...

Keywords: allocation policies, continuous queries

20 Applications: From HTTP to HTML: Erlang/OTP experiences in web based service applications



Francesco Cesarini, Lukas Larsson, Michal Ślaski

September 2006 **Proceedings of the 2006 ACM SIGPLAN workshop on Erlang ERLANG '06**

Publisher: ACM Press

Full text available: pdf(536.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper describes the lessons learnt when internally developing web applications in Erlang. On the basis of these experiences, a framework called the Web Platform has been implemented. The Web Platform follows a design pattern separating data processing and formatting, allowing the construction of flexible and maintainable software architectures. It also delivers mechanisms for building dynamic pages and components. On top of the platform and components, web interfaces to commercial Erlang sy ...

Keywords: HTML, HTTP, erlang, web frameworks

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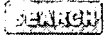


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1 [Industrial and practical experience track paper session 1: The volume and evolution of web page templates](#)



David Gibson, Kunal Punera, Andrew Tomkins

May 2005 **Special interest tracks and posters of the 14th international conference on World Wide Web WWW '05**

Publisher: ACM Press

Full text available: pdf(249.32 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Web pages contain a combination of unique content and *template material*, which is present across multiple pages and used primarily for formatting, navigation, and branding. We study the nature, evolution, and prevalence of these templates on the web. As part of this work, we develop new randomized algorithms for template extraction that perform approximately twenty times faster than existing approaches with similar quality. Our results show that 40--50% of the content on the web is templa ...

Keywords: algorithms, boilerplate, data cleaning, data mining, templates, web mining

2 [Detection and evidence: A fast and robust method for web page template detection and removal](#)



Karane Vieira, Altigran S. da Silva, Nick Pinto, Edleno S. de Moura, João M. B. Cavalcanti, Juliana Freire

November 2006 **Proceedings of the 15th ACM international conference on Information and knowledge management CIKM '06**

Publisher: ACM Press

Full text available: pdf(316.20 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The widespread use of templates on the Web is considered harmful for two main reasons. Not only do they compromise the relevance judgment of many web IR and web mining methods such as clustering and classification, but they also negatively impact the performance and resource usage of tools that process web pages. In this paper we present a new method that efficiently and accurately removes templates found in collections of web pages. Our method works in two steps. First, the costly process of te ...

Keywords: web page noise removal, web template extraction

3 [Web crawling and exploration: A two-phase sampling technique for information extraction from hidden web databases](#)



Y. L. Hedley, M. Younas, A. James, M. Sanderson

November 2004 **Proceedings of the 6th annual ACM international workshop on Web information and data management WIDM '04**

Publisher: ACM Press

Full text available:  [pdf\(563.56 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Hidden Web databases maintain a collection of specialised documents, which are dynamically generated in response to users' queries. However, the documents are generated by Web page templates, which contain information that is irrelevant to queries. This paper presents a Two-Phase Sampling (2PS) technique that detects templates and extracts query-related information from the sampled documents of a database. In the first phase, 2PS queries databases with terms contained in their search interface ...



Keywords: document sampling, hidden web databases, information extraction

4 Tree-Structured Template Generation for Web Pages

Shui-Lung Chuang, Jane Yung-jen Hsu

September 2004 **Proceedings of the 2004 IEEE/WIC/ACM International Conference on Web Intelligence WI '04**

Publisher: IEEE Computer Society

Full text available:  [pdf\(181.46 KB\)](#) Additional Information: [full citation](#), [abstract](#)
 [Publisher Site](#)

As the web becomes an increasingly important source of information, tools for modeling, searching, and extracting information from Web pages are indispensable. By modeling the structure of a Web page defined by its markup tags, one can easily extract target information using structural templates. This paper introduces the Tree Template Automatic Generator (TTAG) that learns tree-structured templates from training Web pages. TTAG was applied to both query-based and frequently updated Web sites, a ...

5 Research track papers: Mining templates from search result records of search engines

Hongkun Zhao, Weiyi Meng, Clement Yu

August 2007 **Proceedings of the 13th ACM SIGKDD international conference on Knowledge discovery and data mining KDD '07**

Publisher: ACM Press

Full text available:  [pdf\(972.30 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Metasearch engine, Comparison-shopping and Deep Web crawling applications need to extract search result records enwrapped in result pages returned from search engines in response to user queries. The search result records from a given search engine are usually formatted based on a template. Precisely identifying this template can greatly help extract and annotate the data units within each record correctly. In this paper, we propose a graph model to represent record template and develop a dom ...


Keywords: information extraction, search engine, wrapper generation

6 Research track: Eliminating noisy information in Web pages for data mining

Lan Yi, Bing Liu, Xiaoli Li

August 2003 **Proceedings of the ninth ACM SIGKDD international conference on Knowledge discovery and data mining KDD '03**

Publisher: ACM Press

Full text available:  [pdf\(468.87 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A commercial Web page typically contains many information blocks. Apart from the main content blocks, it usually has such blocks as navigation panels, copyright and privacy notices, and advertisements (for business purposes and for easy user access). We call these blocks that are not the main content blocks of the page the noisy blocks. We show that the information contained in these noisy blocks can seriously harm Web data mining.

Eliminating these noises is thus of great importance. In this pa ...


Keywords: Web mining, noise detection, noise elimination

7 Poster papers - short papers: Extracting unstructured data from template generated web documents

Ling Ma, Nazli Goharian, Abdur Chowdhury, Misun Chung

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management CIKM '03**

Publisher: ACM Press

Full text available:  pdf(210.48 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose a novel approach that identifies web page templates and extracts the unstructured data. Extracting only the body of the page and eliminating the template increases the retrieval precision for the queries that generate irrelevant results. We believe that by reducing the number of irrelevant results; the users are encouraged to go back to a given site to search. Our experimental results on several different web sites and on the whole cnnfn collection demonstrate the feasibility of our a ...


Keywords: automatic template removal, information retrieval, retrieval accuracy, text extraction

8 Information access and retrieval (IAR): Template detection for large scale search engines

Liang Chen, Shaozhi Ye, Xing Li

April 2006 **Proceedings of the 2006 ACM symposium on Applied computing SAC '06**

Publisher: ACM Press

Full text available:  pdf(416.81 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Templates in web sites hurt search engine retrieval performance, especially in content relevance and link analysis. Current template removal methods suffer from processing speed and scalability when dealing with large volume web pages. In this paper, we propose a novel two-stage template detection method, which combines template detection and removal with the index building process of a search engine. First, web pages are segmented into blocks and blocks are clustered according to their style fe ...

Keywords: clustering, template detection, web page segmentation

9 Novel web applications: The portrait of a common HTML web page

Ryan Levering, Michal Cutler

October 2006 **Proceedings of the 2006 ACM symposium on Document engineering DocEng '06**

Publisher: ACM Press

Full text available:  pdf(270.72 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web pages are not purely text, nor are they solely HTML. This paper surveys HTML web pages; not only on textual content, but with an emphasis on higher order visual features and supplementary technology. Using a crawler with an in-house developed rendering engine, data on a pseudo-random sample of web pages is collected. First, several basic attributes are collected to verify the collection process and confirm certain assumptions on web page text. Next, we take a look at the distribution of diff ...

Keywords: CSS, HTML, feature, javascript, script, style, survey, visual, world wide web

Measuring and characterizing end-to-end Internet service performance

Ludmila Cherkasova, Yun Fu, Wenting Tang, Amin Vahdat

November 2003 **ACM Transactions on Internet Technology (TOIT)**, Volume 3 Issue 4**Publisher:** ACM Press

Full text available: pdf(1.46 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Fundamental to the design of reliable, high-performance network services is an understanding of the performance characteristics of the service as perceived by the client population as a whole. Understanding and measuring such end-to-end service performance is a challenging task. Current techniques include periodic sampling of service characteristics from strategic locations in the network and instrumenting Web pages with code that reports client-perceived latency back to a performance server. Li ...

Keywords: End-to-end service performance, QoS, network packet traces, passive monitoring, reconstruction of web page composition, web site performance

11 Paper session IR-3 (information retrieval): web retrieval: Person resolution in person search results: WebHawk



Xiaojun Wan, Jianfeng Gao, Mu Li, Binggong Ding

October 2005 **Proceedings of the 14th ACM international conference on Information and knowledge management CIKM '05****Publisher:** ACM Press

Full text available: pdf(616.03 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Finding information about people on the Web using a search engine is difficult because there is a many-to-many mapping between person names and specific persons (i.e. referents). This paper describes a person resolution system, called **WebHawk**. Given a list of pages obtained by submitting a person query to a search engine, **WebHawk** facilitates person search in three steps: First of all, a *filter* removes those pages that contain no information about any person. Secondly, a *c* ...

Keywords: clustering, junk filtering, person resolution, person search

12 Data Extraction from Semi-structured Web Pages by Clustering

Le Phong Bao Vuong, Xiaoying Gao, Mengjie Zhang

December 2006 **Proceedings of the 2006 IEEE/WIC/ACM International Conference on Web Intelligence WI '06****Publisher:** IEEE Computer Society

Full text available: pdf(149.77 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

This paper introduces an approach to the use of clustering for data extraction from semi-structured Web pages. A variant Hierarchical Agglomerative Clustering (HAC) algorithm K-neighbours-HAC is developed which uses the similarities of the data format (HTML tags) and the data content (text string values) to group similar text tokens into clusters. Using these clusters, similar text tokens are identified as data fields and extracted as target information. The approach is examined and compared w ...

13 Learning classifiers: Learning block importance models for web pages



Ruihua Song, Haifeng Liu, Ji-Rong Wen, Wei-Ying Ma

May 2004 **Proceedings of the 13th international conference on World Wide Web WWW '04****Publisher:** ACM Press

Full text available: pdf(1.23 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Previous work shows that a web page can be partitioned into multiple segments or blocks, and often the importance of those blocks in a page is not equivalent. Also, it has been proven that differentiating noisy or unimportant blocks from pages can facilitate web

mining, search and accessibility. However, no uniform approach and model has been presented to measure the importance of different segments in web pages. Through a user study, we found that people do have a consistent view about the impo ...

Keywords: block importance model, classification, page segmentation, web mining

14 Analysis of navigation behaviour in web sites integrating multiple information systems

Bettina Berendt, Myra Spiliopoulou

March 2000 **The VLDB Journal – The International Journal on Very Large Data Bases**, Volume 9 Issue 1

Publisher: Springer-Verlag New York, Inc.

Full text available:  pdf(281.14 KB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

The analysis of web usage has mostly focused on sites composed of conventional static pages. However, huge amounts of information available in the web come from databases or other data collections and are presented to the users in the form of dynamically generated pages. The query interfaces of such sites allow the specification of many search criteria. Their generated results support navigation to pages of results combining cross-linked data from many sources. For the analysis of visitor naviga ...

Keywords: Conceptual hierarchies, Data mining, Query capabilities, Web databases, Web query interfaces, Web usage mining

15 Learning important models for web page blocks based on layout and content analysis

 Ruihua Song, Haifeng Liu, Ji-Rong Wen, Wei-Ying Ma

December 2004 **ACM SIGKDD Explorations Newsletter**, Volume 6 Issue 2


Publisher: ACM Press

Full text available:  pdf(601.78 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Previous work shows that a web page can be partitioned into multiple segments or blocks, and often the importance of those blocks in a page is not equivalent. It has also been proven that differentiating noisy and unimportant blocks from pages can facilitate web mining, search and accessibility. However, no uniform approach and model has been presented to measure the importance of different blocks in a web page. Through a user study, we found that people do have a consistent view about the impor ...



Keywords: block importance model, classification, page segmentation, web mining

16 Web usage mining for Web site evaluation


 Myra Spiliopoulou

August 2000 **Communications of the ACM**, Volume 43 Issue 8

Publisher: ACM Press


Full text available:  pdf(1.32 MB)  html(45.37 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

17 Short papers: Exploiting web browsing histories to identify user needs

 Fabio Gasparetti, Alessandro Micarelli

January 2007 **Proceedings of the 12th international conference on Intelligent user interfaces IUI '07**

Publisher: ACM Press

Full text available:  pdf(570.20 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Browsing activities are an important source of information to build profiles of the user interests and personalize the human-computer interaction during information seeking tasks. Visited pages are easily collectible, e.g., from browsers' histories and toolbars, or desktop search tools, and they often contain documents related to the current user needs.


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Lee, Huey-Ming; Mao, Ching-Hao; Shih, Yao-Jen; Chen, Pin-Jen; Hsu, Mu-Hsiu; Su, Jin-Shieh;
[World Automation Congress, 2006. WAC '06](#)

24-26 July 2006 Page(s):1 - 6

Digital Object Identifier 10.1109/WAC.2006.376020

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2. **Internet GIS based army symbol collaborative mapping system**

Jinping Li; Chongjun Yang; Jianbing Zhang;

[Geoscience and Remote Sensing Symposium, 2004. IGARSS '04. Proceedings. 2004 IEEE International](#)

Volume 2, 20-24 Sept. 2004 Page(s):719 - 721 vol.2

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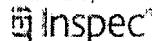
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